Beyond the Web: HTML As An Abstract Document Specification

Richard Rathe, MD; Gene Cornwall, MEd
University of Florida, Gainesville, Florida

INTRODUCTION

Medical educators are making increased use of the World Wide Web (WWW) to deliver computer-assisted instruction to their students.[1] Web authors use Hypertext Markup Language (HTML) to construct complex multimedia documents that can be "served" over the Internet. HTML itself is an abstract document definition. Ideally, abstract documents are context independent; not tied to particular hardware, storage media, or authoring programs. HTML fails in this last respect, requiring either arcane knowledge or special software for document creation. This poster describes our efforts to eliminate this constraint and exploit HTML to its fullest potential in support of medical education.

METHODS

In order to maximize our ability to disseminate computer-based materials, we have modularized our HTML documents. All HTML files for each module are kept at the same directory level. Relative addresses are used to refer to hypertext links or images wherever possible. This allows us to store materials in different locations and distribute them via various media including CD-ROM.

We use a simplified markup syntax called "MTX" to define each HTML document.[2] MTX files are easy to read and can be created by any word processor. A filter program, "MTX Tool," is used to convert MTX into HTML on demand.

We chose this automated approach for the following reasons:

- There is no need for content assistants or editors to learn new software
- Source documents are plain text files compatible across all desktop computers
- Automatic creation of complex layouts
- The "look and feel" of each document is extremely consistent
- Address problems not resolved by modular structure can be fixed automatically

In addition to basic page formatting, MTX supports several complex HTML constructs:

- Context sensitive navigational links
- Clickable tables of contents
- Clickable thumbnail graphics
- Hierarchical document outlines
- Interactive questions with feedback

RESULTS

We are currently using these techniques to convert our existing Hypercard/laserdisc courseware. Most of our future courseware development will be based on HTML. For example, for the fall of 1995 we will consolidate our pathology teaching materials, including over 2000 high quality images, using MTX, WWW, and CD-ROM. We anticipate several direct benefits for students:

- Increased access to materials throughout our Health Center and off-campus
- Decreased need for specialized equipment such as laserdisc players
- Greater flexibility for students to study at home using CD-ROM
- Increased integration of materials across the curriculum

References

1. Metcalfe, ES; Frisse, ME; Hassan, SW; Schnase, JL. Academic networks: Mosaic and the World Wide Web. ACAD MED. 1994; 69(4):270-273

2. A Five Minute Guide to MTX
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